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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/827,522

04/20/2004

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EXAMINER

MAGEE, CHRISTOPHER R

ART UNIT

PAPER NUMBER

2627

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/21/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/827,522	Applicant(s) TANAKA ET AL.	
	Examiner Christopher R. Magee	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 17-19 and 28-60 is/are rejected.
- 7) ☒ Claim(s) 16 and 20-27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 January 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/3/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The reply filed 01/03/2007 was applied to the following effect: All relevant objections are withdrawn as being satisfied.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- Claims 1, 2, 5-11, 14, 15, 28-50 and 57-60 are rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe et al. (hereinafter Watanabe) (US 6,111,837).
- Regarding claims 1 and 57-60, Watanabe discloses an optical disk device comprising:
 - a frame (i.e., base) 222;
 - fixing parts 222d-f for directly fixing the frame to an electronic device (i.e., sub-chassis 203 is part of an electronic device);
 - an optical pickup module 205, fixed to the frame 222 [col. 23, lines 39-40]; and
 - a circuit board 251, with a control circuit fixed to the frame 222 [col. 29, lines 24-40].
- Regarding claims 2 and 5-7, Watanabe shows at least a part of the fixing parts 222d-f has a form capable of being screwed 256 [col. 24, line 58 to col. 25, line 17; Figs. 32B and 33].
- Regarding claims 8 and 9, Watanabe shows at least a part of the fixing parts 222d-f to other members provided in the frame has a substantially planar part and the substantially planar

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part of the fixing part is substantially parallel and substantially perpendicular to the surface of the frame [Fig. 20].

- Regarding claim 10, Watanabe shows at least a part of the fixing parts 222d-f to other members provided in the frame is provided in the outer peripheral part of the frame [Fig. 20].

- Regarding claim 11, Watanabe shows the fixing parts 222d-f to other members provided in the frame, are disposed at two to ten positions [Fig. 20].

- Regarding claims 14, 33 and 34, Watanabe shows a through hole 222a is provided in the frame 222 and the optical pickup module 205 is attached to the back surface of the frame so that at least a part of the optical pickup module is exposed from the through hole [Figs. 20 and 29].

- Regarding claim 15, Watanabe discloses the optical pickup module comprises:

- a module frame;

- a pair of shafts 226, 227, provided in the module frame;

- a carriage, provided on the pair of shafts so as to be movable and having optical members mounted thereon;

- a driving unit, provided in the module frame to drive the carriage,

- a cover, attached to the module frame, and having a through hole and exposing at least a part of the carriage from the through hole; and

- a spindle motor, attached to the module frame;

- wherein the module frame is fixed to the frame through a vibration preventing material [col. 23, line 55 to col. 24, line 12; Fig. 29].

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- Regarding claims 28-31, Watanabe discloses a plurality of circuit boards 251, 252a, 252b, 253, are provided and the plurality of circuit boards are separated from each other and fixed to the frame [col. 29, lines 24-40; Fig. 21].
- Regarding claim 32, Watanabe discloses a plurality of circuit boards 251, 252a, 252b, 253, are attached to a back surface opposite to the side of the frame on which the optical disc is mounted [col. 29, lines 24-40; Fig. 21].
- Regarding claims 35-45, Watanabe discloses the plurality of circuit boards are connected together by a flat plate type connecting member 252a, 252b, and the flat plate type connecting member is folded at least once [Fig. 21].
- Regarding claims 46-50, Watanabe discloses a control switch 212 directly or indirectly fixed to the frame is provided [col. 20, lines 20-33; Fig. 19].

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (hereinafter Watanabe) (US 6,111,837) as applied to claim 1 above, and further in view of Goda (US 5,555,623).

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Regarding claim 3, Watanabe discloses all the features, *supra*, except at least a part of the fixing parts has a form capable of being ultrasonic welded or thermally welded or has the form capable of being fixed by an adhesive agent.

Goda teaches the use of an adhesive or ultrasonic welding when joining parts of an object lens holder in the manufacturing of an optical disk device [col. 14, lines 43-45].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the fixing parts has a form capable of being screwed of Watanabe with a form capable of being ultrasonic welded or thermally welded or has the form capable of being fixed by an adhesive agent taught by Goda.

The rationale is as follows: One of ordinary skill in the art at the time of the invention would have been motivated to substitute the fixing parts to other members provided in the frame has a form capable of being screwed of Watanabe with a form capable of being ultrasonic welded or thermally welded or has the form capable of being fixed by an adhesive agent taught by Goda because they are known adhering techniques that are used in the manufacturing of optical disk devices and using them is merely a substitution of art recognized equivalents.

- Claims 12, 13 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (hereinafter Watanabe) (US 6,111,837) as applied to claim 1 above, and further in view of Saitou et al. (hereinafter Saitou) (US 6,738,334 B1).

Regarding claims 12, 13, 17-19, Watanabe discloses all the features, *supra*, except a lead free material being used for members forming the optical pickup module or the connecting materials of the members, electronic parts forming the circuit board or the connecting materials

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of the electronic parts and other members mounted on the frame or the connecting materials of the members and the frame is made of a material including a resin and the weight of the frame is 13g or lower.

Saitou teaches a lens carriage 30 integrally formed of a thermo-soluble resin (i.e., lead-free) [col. 8, lines 27-29]. Saitou also teaches the total weight of the disk drive can be reduced to about 200 g by setting the weights of specific components noted in col. 28, lines 44-65.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the frame and other components of Watanabe with a lead free material and/or resin as taught by Saitou.

The rationale is as follows: One of ordinary skill in the art at the time of the invention would have been motivated to make the frame and other components of Watanabe with a lead free material and/or resin as taught by Saitou in order to maintain or improve the reliability and durability of an optical disk drive [Saitou; col. 2, lines 20-23]. Further, Watanabe does not set forth the dimensions as specified in claim 18. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the frame of Watanabe with the claimed dimensions through routine experimentation and optimization in the absence of criticality. More particularly, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Swain et al.*, 33 CCPA (Patents) 1250, 156 F.2d 239 70 USPQ 412; *Minnesota Mining and Mfg. Co. v Coe*, 69 App. D.C. 217, 99 F. 2d 986, 38 USPQ 213; *Allen et al. v Coe*, 77 App. D.C. 324, 135 F. 2d 11, 57 USPQ 136.

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- Claims 51-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (hereinafter Watanabe) (US 6,111,837) as applied to claim 1 above, and further in view of Sato et al. (hereinafter Sato) (US 6,731,580 B1).

Regarding claims 51-56, Watanabe discloses all the features, *supra*, except a brake member abutting on the outer periphery of a disk fixed and mounted on the frame is separately provided and the brake member is disposed so as to abut on/not abut on the outer periphery of a disk.

Sato teaches the use of a brake mechanism 17 abutting the outer periphery of a disk that brakes the disk when the cover 14 is opened [col. 5, line 65 to col. 6, line 9].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the frame of Watanabe with a brake mechanism taught by Sato.

The rationale is as follows: One of ordinary skill in the art at the time of the invention would have been motivated to provide the frame of Watanabe with a brake mechanism taught by Sato in order to stop the disk when the tray is opened [Sato; col. 4, lines 26-29].

Allowable Subject Matter

4. Claims 16 and 20-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

5. Applicant's arguments filed 1/3/2007 have been fully considered but they are not persuasive. The Applicant asserts on pages 22-23 of the Remarks:

"Claim 1 now defines an optical disk device, for being disposed in an electronic device, having a frame, fixing parts for directly fixing the frame to the electronic device, and an optical pick-up module and a circuit board fixed to the frame. The Office Action proposes that Watanabe discloses, in Fig. 31A, an optical disk device having a frame (i.e., base) 222 and fixing parts 222d-222f that fix the frame to other members (see Office Action page 3, second to last paragraph). However, Watanabe discloses that base 222 has three mounting portions 222d-222f that mount base 222 on a sub-chassis 203 (see Watanabe col. 24, lines 28-32). As may be determined by inspection of Watanabe's Fig. 20, both base 222 and sub-chassis 203 are integral components of Watanabe's optical disk device. By contrast to the claimed feature of fixing parts for directly fixing the frame of the optical disk device to an electronic device, Watanabe discloses fixing a containing portion 112 of the optical disk device to a personal computer body (see Watanabe col. 13, lines 63-64)."

The Examiner maintains Watanabe discloses fixing parts 222d-f for directly fixing the frame to an electronic device (i.e., sub-chassis 203 is part of an electronic device), which satisfies the claimed feature. Hence, the rejection of claim 1 is upheld.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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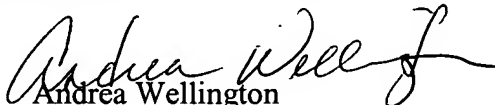
however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Magee whose telephone number is (571) 272-7592. The examiner can normally be reached on M-F, 8: 00 am-4: 30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christopher R. Magee/
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March 15, 2007
crm